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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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MAR 22 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Implementation of Section 17)
of the Cable Television)
Consumer Protection and)
Competition Act of 1992)
)
Compatibility Between)
Cable Systems and Consumer)
Electronics Equipment)

ET Docket No. 93-7 ✓

COMMENTS OF
GREATER MEDIA, INC.,
MONMOUTH CABLEVISION ASSOCIATES,
AND RIVERVIEW CABLEVISION ASSOCIATES

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Summary

Equipment compatibility, while a worthy goal, must not be mandated in a manner that will undermine cable security or technological advances.

Scrambling is today a critical tool in delivering cable programming and combatting signal theft. The Commission should not seek to restrict its use, nor limit an operator's control over descramblers. It should instead focus on developing standards for television receivers and video cassette recorders which will make that equipment truly "cable ready." It should simultaneously develop labelling standards so that consumers will properly understand the extent of a given set's cable "compatibility."

To overcome the converter "problem" on a mid-term basis, the Commission should adopt a "decoder interface" approach. This would allow cable operators to serve subscribers through transparent set-back decoders. The Commission must understand, however, that cable technology is advancing rapidly, and the impending arrival of digital compression may, as a practical matter, make converters indispensable.

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AND RIVERVIEW CABLEVISION ASSOCIATES

INTRODUCTION

Greater Media, Inc., Monmouth Cablevision Associates
and Riverview Cablevision Associates hereby submit these Comments
in the above-referenced proceeding. Section 624A of the 1992
Cable Act manifests Congressional concern that cable's use of
converters and signal encryption interferes with certain
functions of subscribers' television receivers and video cassette

The Commission must understand that the cable industry has no desire to complicate television viewing. Equipment incompatibility represents a major marketing headache that the industry itself would like to resolve. Unfortunately, cable operators face rampant signal theft, and scrambling is still the best defensive weapon in cable's arsenal. Employing converters and encryption technology also affords cable customers a wide array of valuable benefits, including enhanced picture quality, reduced service costs, and additional programming options, that should not be overlooked. In fact, the limitations of many existing television sets require a converter for acceptable cable viewing, even when no scrambling is involved.

The simple truth is that cable operators are already committed to making cable television "user-friendly." That is a matter of good business and common sense. The cable industry has devoted great time, energy, and resources to developing sensible and efficient methods of signal delivery. While cable's signal delivery may sometimes incidentally inhibit certain premium features on television receivers, the real problem lies with those receivers, not with cable. Indeed, as explained below, if television manufacturers made a few modest changes to their sets, and included multiple ports (an extremely inexpensive option), cable operators could employ "back-of-the-set" descramblers that would meet all of the operators needs and still be transparent to the subscriber.

start, change, or stop service to a subscriber without resorting to a service call, with its attendant cost and customer inconvenience. The technology is ideal for pay-per-view options. Finally, it provides relatively high security against signal theft.

Signal filters (or "traps") have been widely used by the cable industry for many years to control signal delivery. Trap technology controls signals delivered to the house from the pole. The equipment cost of an individual trap is quite low (in the order of \$10). Unfortunately, trapping technology has a number of shortcomings. It is far more susceptible to theft and cannot easily handle the multitude of marketing options (including multiple tiers and increased a la carte offerings) now being developed. The delivery of impulse pay-per-view is impossible.

Traps are physically bulky and take up a significant amount of room at the tap. The use of multiple taps to control several levels of service creates an unmanageable string of traps that can intrude into space occupied by other pole tenants and pose technical code violations. Traps create signal loss and do not pass all frequencies equally. Several traps in series reduce the signal level delivered to the subscriber.

In order to build a trap to operate in the outdoor environment, for a price that makes the technology practical,

compromises must be made. These compromises affect the bandwidth the trap controls, and the precision of its transition between passing and eliminating adjacent channels. The result is an impairment of one or more channels immediately adjacent to the channel rejection area of the trap. The magnitude of the impairment increases as the frequency of the pass-stop transition increases. In practice, trap technology is difficult to employ at the higher frequencies used by cable.

While capital costs for a trap can be quite low, the use of trap technology imposes an ongoing cost to the cable operator. Traps must be physically adjusted to change the level of service provided to a customer. This requires a "truck roll" so that a technician can visit the subscriber's cable drop. This is necessarily costly, and forces the customer to wait to have an order fulfilled.

A third technology employed to control signal delivery is interdiction. Interdiction offers the advantage of addressability, but operates outside the home on the pole. After a rocky start, recent technical improvements have led to acceptable performance levels. While it is a customer friendly method of delivering signals, interdiction has serious cost problems. It has to be deployed to every customer, including "basic only" and "non-scrambled" customer. The equipment itself can be 50% more expensive than an addressable converter. Interdiction equipment also consumes dramatically more power. In

its present form, interdiction is also limited in the number of programming channels it can control.

The unfortunate truth is that any technology can ultimately be overcome by a determined signal pirate. Experience has shown, however, that scrambling is the best means available to combat signal piracy. The extent of cable's piracy problem, and the superiority of scrambling over traps, is well-illustrated by Riverview Cablevision's experience in Northern New Jersey. After identifying a serious piracy problem in its Hoboken system, and meeting little success through other means, Riverview decided to switch from a "trapping" approach to a "scrambling" approach. Riverview began scrambling in May of 1990. By the end of that year, basic subscriptions had increased over 12%, HBO subscriptions had increased by almost 14%, and additional outlets subscriptions had increased 57%. Riverview attributes virtually all those new subscribers to its scrambling.

Scrambling may make it more difficult to simultaneously watch and tape different scrambled programs and utilize certain premium features on high-end television receivers. But these problems can be largely overcome by properly connecting home equipment (television and VCR) and making use of two decoders or premium multi-output decoders. In any event, the modest inconveniences inherent to scrambling are dwarfed by its effectiveness in combatting signal piracy. Service theft reduces system revenue and raises the cost of service for legitimate

subscribers. Any rules adopted in this proceeding must...

There is no question that interface technology works. Equally important, transition to this new technology would be relatively easy, because the same signal scrambling systems could work simultaneously for both "converter" and "interface" technologies. That will allow cable to continue serving the existing base of television receivers, while they are gradually being replaced by newer interface-equipped models.

Unfortunately, in a classic "chicken and egg" dilemma, interface technology was previously considered, but never implemented on a wide scale basis. With a few exceptions, television manufacturers were reluctant to deploy the technology, and cable equipment providers were reluctant to initiate production. There was little subscriber pressure for the technology, and it was ultimately abandoned.

We suggest the Commission, relying primarily on cooperative efforts between the cable and home electronics industries, establish rigorous tuning and interface standards on all new television sets. The standards should be designed to accommodate, as much as possible, anticipated technological advances. The Commission should also require the installation of port interfaces on all new television sets. These ports can be installed at nominal cost. While we recommend against requiring cable operators to provide interface devices at this time, making ports available now will give the Commission and the cable industry added flexibility. If dissatisfaction with set-top

converters is as pervasive as Congress believed, subscriber demand will lend cable operators to quickly roll out and feature set-back interfaces.

While the port interface approach is compelling, it, by itself, is really only a medium-term solution. The Commission must appreciate that cable technology is developing rapidly. The special tuning features of a converter are likely to again become necessary in an era of digital compression. As discussed below, the only way to avoid this reintroduction would be to have television sets built with replaceable tuners. If this seems too extreme, the Commission must acknowledge that the much maligned converter box is likely to remain the most practical means of delivering the full benefit of cable technology to television viewers.

III. RIGOROUS STANDARDS SHOULD BE REQUIRED BEFORE LABELLING A TELEVISION RECEIVER OR VCR "CABLE READY"

We strongly support efforts to specify technical requirements with which a television receiver or video cassette recorder must comply in order to be sold as "cable compatible" or "cable ready." All too often consumers have purchased electronic equipment assuming it would bypass the need for additional cable equipment, only to be disappointed. Any set identified as "cable ready" should be able to function without a set-top converter. Many converters employed today are used not for their decoding capability, but because television receivers lack the technical

qualities necessary to receive and transmit high quality cable signals. This is simply not acceptable for a set marketed as "cable ready." To be classified as "cable ready" (i.e., operates without a converter), a television set must include, at a minimum:

1. Tuners that can readily accomodate all existing cable-supplied channels;
2. Tuners than can be easily replaced or supplemented to accomodate advancing technology;
3. Enhanced shielding to preclude unwanted interference from off-air signals;
4. Interface ports behind the set that can accomodate cable signal security;

We further recommend the adoption of rules requiring prominent disclosures as to what "compatibility" features a particular television set may lack. This will be particularly important since many subscribers may decide to opt against a "cable ready" set in favor of a cheaper option accompanied by use of a supplemental converter.

IV. CABLE OPERATORS MUST MAINTAIN CONTROL OVER DESCRAMBLERS

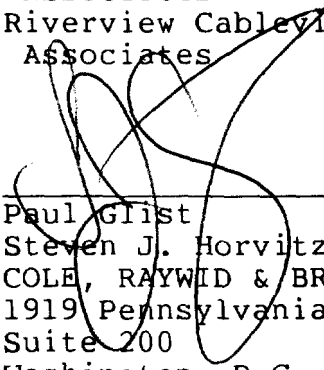
The statute instructs the Commission "to promote the commercial availability" of converter boxes and remote control units from unaffiliated third-part vendors. It also requires

Cable operators to notify their subscribers of this option. We have no objection to this statutory mandate, subject to two important caveats. First, the cable operator must be allowed to exercise exclusive control over descrambling equipment. If a subscriber simply needs a "plain vanilla" converter for tuning purposes, there is no compelling reason to require that the equipment be purchased from the cable operator. But if a descrambler is involved, the cable operator must be allowed to control its distribution. Combatting signal theft is hard enough, without the Commission facilitating the proliferation of pirate descramblers.

Second, the Commission must be sensitive to the public relations problem posed by encouraging consumers to purchase additional third party equipment to be used in connection with cable television. As already explained, "cable ready" television sets are often anything but "cable ready." And "universal" remotes often fall short of their title as well. Unfortunately, a consumer who purchases a technically inadequate model typically blames the cable operator for having "the wrong kind of cable system." Operators must be allowed to warn subscribers that only certain equipment will be truly "compatible" with their system, and equipment suppliers must be required to fully disclose the limitations of their equipment.

Respectfully submitted,

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